

### REMARKS/ARGUMENTS

Claims 17-22, 24-27, 29-33, 35, 39, and 40 remain in the present application. Claims 43-45 have been added and support for these claims can be found on page 5 of the specification. Claims 17-22, 24, 25, 26, 27, 29-33, and 39 have been amended without prejudice or disclaimer of any previously claimed subject matter. Applicant reserves the right to file one or more divisional applications directed to the canceled subject matter.

#### Rejection Under 35 U.S.C. §102(b) in view of Lehmann et al.

The Office Action rejects claims 17-27, 29-33, 35, 39, and 40 under 35 U.S.C. §102(b) in view of Lehmann *et al.* (U.S. Patent No. 4,959,123). Lehmann does not anticipate these claims because the present claims are directed to the addition of specified alcohol alkoxylates in a washing stage for deinking recycled newsprint. The Lehmann reference teaches the addition of alkoxylate alcohols to a flotation stage (See column 3, lines 35-37). It is well known in the art that washing and flotation processes differ greatly. Flotation based systems are characterized generally as “hydrophobic” systems, and wash deinking systems are characterized generally as “hydrophilic” systems.

In addition, the Lehmann reference does not teach any use of a monohydric alcohol in the deinking process as presently claimed. Because the Lehmann reference does not teach each and every single element of the amended claims, this reference fails to anticipate the pending claims.

#### Rejection Under 35 U.S.C. §102(b) in view of Kato

The Office Action rejects claims 17, 21, 22, 26, 27, 29, and 31-33 under 35 U.S.C. §102(b) in view of Kato (U.S. Patent No. 5,460,695). However, because Kato describes a flotation based process it does not anticipate the presently claimed invention (See column 1, lines 10-13, of the ‘695 Patent). In addition, the Kato reference does not teach the use a C16 to C25 aliphatic, monohydric alcohol alkoxylate used in the presently claimed methods. Kato *et al.* teach a polyoxyalkylene with the structure of R-O-(PO)<sub>x</sub>(AO)<sub>y</sub>(PO)<sub>z</sub>-H, which a three block oxyalkyl group; i.e. oxypropylene-oxyethylene-oxypropylene conformation. The presently claims recite to a two block oxyalkylene system [R-O-(CH<sub>2</sub>-CH<sub>2</sub>-O)<sub>n</sub>-(CH<sub>2</sub>-CH(CH<sub>3</sub>)-O)<sub>m</sub>-H] as

described on page 5 of the present application. Thus, the Kato reference fails to teach each and every single element of the presently claimed methods and fails to anticipate the pending claims.

*Rejections Under 35 U.S.C. § 103 in view of Irinatsu et al.*

The Office Action rejects claims 17-27 and 29-33 under 35 U.S.C. § 103(a) as unpatentable over Irinatsu et al. (U.S. Patent No. 6,103,056). The Office Action asserts that Applicant's claim to a washing process does not overcome Irinatsu because Irinatsu discloses a combined flotation/wash system. Applicant has amended the claims to indicate that the deinking composition is added to the wash stage. It is respectfully submitted that this amendment overcomes the rejection because Irinatsu adds his disclosed deinking composition to the flotation stage.

*Rejection Under 35 U.S.C. §103(a) in view of Rodriguez*

The Examiner has rejected claims 17-27, 29-33, 35, 39, and 40 under 35 U.S.C. §103(a) as unpatentable over Rodriguez *et al.* (U.S. Patent No. 5,665,204). As Applicants have previously noted, the Rodriguez reference contains a remarkably broad recitation of utility, suggesting that his deinking compositions can be used to deink "any type of printed wastepaper (even paper containing many fillers)," and with "any type of print: daily newspapers (letter-press or offset), illustrated magazines (coated or uncoated), electronic computer tabulations, paper of archives with or without mechanical pulp, trimmings from typographical or from paper working industries, and printed polyethylenized cardboards, etc." See paragraph bridging columns 4 and 5. The patent makes no effort to address the fact that these paper types each have unique processing requirements based upon their unique chemical characteristics. A skilled worker would find these assertions to be incredulous and without any guidance or teaching.

In addition, Applicants have amended the claims to clearly recite the use of a two block oxyalkylene system [R-O-(CH<sub>2</sub>-CH<sub>2</sub>-O)<sub>n</sub>-(CH<sub>2</sub>-CH(CH<sub>3</sub>)-O)<sub>m</sub>-H] as disclosed on page 5 of the present application. Because Rodriguez only discloses a 3 block surfactant (see column 4, lines 31-40), and contains no motivation to employ Applicant's 2 block surfactant, it does not render the claimed methods obvious.

In addition, Applicant's specification reports unexpected results over Rodriguez's compositions. The Table following Example 1 (page 10) indicates that nonyl phenol surfactants, such as the ones employed in Rodriguez's examples, only resulted in a brightness 48.4% and a ERIC of 445. In contrast, surfactants of the presently claimed invention improve the brightness of recycled newspaper by 52.3% and give a remarkably low ERIC value of 219 for the reported "Linear C<sub>18</sub> alcohol (EO)<sub>20</sub>." These superior properties further prove the nonobviousness of the present invention.

Rejection Under 35 U.S.C. §103(a) in view Wood et al.

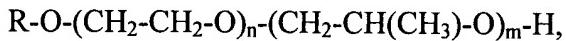
The Examiner has rejected claims 17-27, 29-33, 35, 39, and 40 under 35 U.S.C. § 103(a) as obvious over Wood *et al.* (U.S. Patent No. 4,666,558). However, Wood *et al.* teach a deinking composition that contains C9-C16 alkanol ethoxylates that contain 0.5-3.5 oxyethylene units, and the deinking compositions recited in the claims exclude such alkoxylates through the use of the term "consisting essentially of." Because Wood *et al.* does not teach or suggest deinking compositions that omit alkoxylates having 0.5-3.5 oxyethylene units, this reference does not render claims 17-27, 29-33, 35, 39, and 40 obvious.

Rejection Under 35 U.S.C. §103(a) in view of Freis et al.

The Examiner has rejected claims 17-27, 29-33, 35, 39, and 40 under 35 U.S.C. § 103(a) as obvious over Freis *et al.* (U.S. Patent No. 4,518,459). However, Freis only discloses a single foam-suppressing surface active agent consisting essentially of R-(Ar)-(OC<sub>2</sub>H<sub>4</sub>)<sub>m</sub>-(OC<sub>3</sub>H<sub>6</sub>)<sub>n</sub>-Y, wherein Ar is an aromatic group. In contrast, the presently claimed deinking composition recited in the claims cannot contain an aryl group. Because Freis *et al.* does not teach or suggest alkyl based deinking compositions, it does not support a *prima facie* case of obviousness.

New Claims 43, 44, and 45

Applicant has added claims 43-45, and respectfully submit that these claims are not taught or suggested from the prior art. The independent claim 43 relates to a non-flotation deinking process, comprising non-ionic, aliphatic, monohydric alcohol alkoxylates of the following structure:



wherein R is a straight chain or branched chain C18 alkyl group, n is 21 and m is from 0 to about 6, which is added to the washing stage. As articulated earlier, the Lehmann reference teaches the addition of the surfactant to a flotation stage while claim 43 adds the non-ionic surfactant to the washing stage. Irinatsu and Kato teach a deinking flotation process, while the present claims recite a washing process for deinking. Rodriguez teaches a 3 block alkoxylate system, whereas, Applicant claims a method using a compound including a 2 block alkoxylate system. Wood et al., does not teach the specific composition used in the deinking method of claim 43, because Wood et al. teaches alkanol ethoxylates that contain 0.5-3.5 oxyethylene units, while claim 43 claims a method using a compound having 21 oxyethylene units. Lastly, Freis et al. teach aromatic surfactants which is distinct from the monohydric alkyl alcohol recited in the present claim 43.

### CONCLUSION

In view of the foregoing remarks, Applicant respectfully requests the reconsideration of this application and the timely allowance of the pending claims. Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 11-0980.

Respectfully submitted,



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